

NOVEMBER/DECEMBER 2025

23UEL51 — MICROPROCESSOR AND ITS APPLICATIONS

Time : Three hours

Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. What is Flag register?
2. List any two addressing modes of 8085.
3. What is a stack pointer?
4. Define subroutine.
5. State the machine cycle and T-state.
6. Write the purpose of an I/O port in microprocessor.
7. State the hardware interrupt and software interrupt.
8. Write the purpose of SIM instructions in 8085 microprocessor.
9. List any two applications of D/A converter.
10. What is function of 8259?



SECTION B — ($5 \times 5 = 25$ marks)

Answer ALL questions.

11. (a) Draw the architecture of 8085 microprocessor and explain ALU.

Or

- (b) Write an assembly language program to add two 8 bit numbers.

12. (a) Explain stack-related instructions of 8085 with examples.

Or

- (b) Write a short program to transfer a block of data from one memory location to another.

13. (a) Explain the memory read and memory write machine cycles.

Or

- (b) Enlighten the difference between I/O mapped I/O and memory-mapped I/O.

14. (a) Explain the interrupt priority in 8085 microprocessor.

Or

- (b) Draw neat diagram and explain seven segment display.

15. (a) Explain the interfacing of a D/A converter with 8085 microprocessor.

Or

- (b) Write a note on stepper motor interfacing with 8085 microprocessor.

SECTION C — ($3 \times 10 = 30$ marks)

Answer any THREE questions.

16. Explain in detail the instruction set of 8085 with examples.

17. Discuss the advanced programming techniques in 8085 with suitable examples.

18. Explain the classification of semiconductor memories with block diagram.

19. Briefly explain the programmable peripheral interface 8255.

20. With neat diagram, explain the interfacing A/D converter with microprocessor 8085.